

In the Claims:

Please add the following claims 21 and 22 and amend claims 1 to 20 as follows:

- 1.(currently amended) A substrate ~~Substrate~~ for extreme ultraviolet EUV microlithography, comprising a base layer and a at least one ~~at least one~~ covering layer, the base layer having a coefficient of thermal expansion of at most 0.1 ppm/°C and the covering layer having a coefficient of thermal expansion of at most 1 ppm/°C, said covering layer comprising at least one individual layer.
- 2.(currently amended) The substrate ~~Substrate~~ according to claim ~~Claim~~ 1, in which the covering layer has a thickness of 0.01 to 100 µm.
- 3.(currently amended) The substrate ~~Substrate~~ according to claim 1, in which the covering layer has a surface roughness of at most 0.5 nm rms.
- 4.(currently amended) The substrate ~~Substrate~~ for extreme ultraviolet EUV microlithography, comprising a base layer and a at least one ~~at least one~~ covering layer, in which the base layer comprises ceramic and/or glass-ceramic and the covering layer comprises silicon dioxide, said covering layer comprising at least one individual layer.

5.(currently amended) ~~The substrate~~ Substrate according to ~~claim~~ Claim 4, in which the base layer comprises Zerodur®, Zerodur® M, Clearceram®, Clearceram® Z or cordierite-containing ceramics.

6.(currently amended) ~~The substrate~~ Substrate according to claim 5, in which the covering layer comprises doped silicon dioxide.

7.(currently amended) ~~The substrate~~ Substrate according to ~~claim~~ Claim 6, in which the covering layer comprises TiO₂, other metal oxides besides said TiO₂, F or and/or a mixture of these components as dopants.

8.(currently amended) ~~The substrate~~ Substrate according to claim 4, in which the covering layer has a thickness of 0.01 to 100 µm.

9.(currently amended) ~~A process~~ Process for producing a substrate, wherein the substrate comprises a at least one covering layer and a at least one base layer, the base layer having a coefficient of thermal expansion of at most 0.1 ppm/°C and the covering layer having a coefficient of thermal expansion of at most 1.0 ppm/°C, said covering layer comprising at least one individual layer,

wherein the process comprises the steps of

a) providing said a base layer which has said a coefficient of thermal expansion of at most 0.1 ppm/°C,

- (b) applying said a-covering layer which has said a-coefficient of thermal expansion of at most 1.0 ppm/°C, and
- (c) if appropriate, polishing the covering layer.

10.(currently amended) The process ~~Process~~ according to claim ~~Claim~~ 9, in which the covering layer is applied by a chemical vapor deposition process consisting of a plasma enhanced chemical vapor deposition process, a plasma assisted chemical vapor deposition process or a plasma impulse vapor deposition process ~~CVD process, in particular a PECVD, PACVD or PICVD process.~~

11.(currently amended) The process ~~Process~~ according to claim ~~Claim~~ 9, in which the covering layer is after-treated ~~aftertreated~~ by an ion beam figuring ~~IBF~~ process.

12.(currently amended) The process ~~Process~~ according to ~~of Claim~~ claim 9, in which the covering layer is applied in a layer thickness of 0.01 µm to 100 µm.

13.(currently amended) An element for extreme ultraviolet ~~EUV~~ microlithography, comprising a substrate and a reflective layer, provided on the substrate;

wherein the substrate comprises a ~~at least one~~ covering layer and a ~~at least one~~ base layer, the base layer having a coefficient of thermal expansion of at most 0.1 ppm/°C and the covering layer having a coefficient of thermal

expansion of at most 1.0 ppm/°C, said covering layer comprising at least one individual layer.

14.(currently amended) The element ~~Element~~ according to claim ~~Claim~~ 13, wherein the reflective layer is a multilayer coating.

15.(currently amended) The element ~~Element~~ according to claim ~~Claim~~ 14, wherein the reflective layer comprises alternating layers of Mo and Si.

16.(currently amended) The element ~~Element~~ according to claim ~~Claim~~ 13, consisting of wherein the element is a mirror for extreme ultraviolet EUV microlithography.

17.(currently amended) The element ~~Element~~ according to claim ~~Claim~~ 13, consisting of wherein the element is a mask or mask blank for extreme ultraviolet EUV microlithography.

18.(currently amended) The element ~~Element~~ according to claim ~~Claim~~ 17, further comprising an absorbing layer, provided on the reflective layer.

19.(currently amended) A process of producing an element for extreme ultraviolet EUV microlithography, wherein the element comprises a substrate and a reflective layer, provided on the substrate; and wherein the substrate comprises

~~a at least one covering layer and a at least one base layer~~, the base layer having a coefficient of thermal expansion of at most 0.1 ppm/°C and the covering layer having a coefficient of thermal expansion of at most 1.0 ppm/°C, said covering layer comprising at least one individual layer;

the process comprising the steps of

- (A) providing said at least one base layer which has said a-coefficient of thermal expansion of at most 0.1 ppm/°C,
- (B) applying said at least one covering layer which has said a-coefficient of thermal expansion of at most 1.0 ppm/°C,
- (C) if appropriate, polishing the covering layer, and
- (D) providing a reflective layer on the covering layer of the substrate.

20.(previously presented) A substrate for precision components comprising a base layer and ~~a at least one covering layer~~, the base layer having a coefficient of thermal expansion of at most 0.1 ppm/°C and the covering layer having a coefficient of thermal expansion of at most 1 ppm/°C; wherein the surface roughness of the covering layer is at most 1 nm rms, said covering layer comprising at least one individual layer.

21.(new) A substrate for extreme ultraviolet (EUV) microlithography, wherein said substrate comprises

a base layer consisting of a ceramic or glass ceramic material having a coefficient of thermal expansion of at most 0.1 ppm/°C; and

a covering layer adhering to the base layer, said covering layer comprising silicon dioxide or Ti-doped silicon dioxide and having a surface roughness of at most 0.5 nm rms and a coefficient of thermal expansion of at most 1 ppm/°C, said covering layer comprising at least one individual layer.

22.(new) A substrate for extreme ultraviolet (EUV) microlithography, wherein said substrate comprises

a base layer consisting of a ceramic or glass ceramic material having a coefficient of thermal expansion of at most 10 ppb/°C; and

a covering layer adhering to the base layer, said covering layer having a surface roughness of at most 0.5 nm rms and a coefficient of thermal expansion of at most 0.5 ppm/°C, said covering layer comprising at least one individual layer.